REMARKS

INTRODUCTION

In accordance with the foregoing, claim 5 has been amended. No new matter is being presented, and approval and entry are respectfully requested. Therefore, claims 5-8 are pending and under consideration. Reconsideration is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

In the outstanding Office Action, the Examiner rejected claims 5-8 under 35 U.S.C. § 103(a) as being unpatentable over Hata et al. (US 2002/0190263 A1) in view of Matsumoto et al. (US 2003/0082893 A1) and Miyamoto (US 5,246,888). Applicant respectfully traverses this rejection.

Applicant respectfully submits that the subject invention, as presently claimed, is patentably distinct from the cited prior art. Specifically, either Hata et al., Matsumoto et al., or Miyamoto neither disclose nor suggest at least "an n-semiconductor layer, an activated layer, and a p-semiconductor layer, formed in order, on top of the double substrate, wherein the p-semiconductor layer is activated by a heat-treatment at a temperature less than about 600 °C under the condition of an oxygen plasma ion;

a transparent electrode for extending an electric current formed on the top of the p-semiconductor layer;

a p-pad electrode directly formed after the heat-treatment on the top of the transparent electrode for extending an electric current;" as presently recited in independent claim 5.

In more detail, Hata et al. do not disclose plasma activating the p-semiconductor layer, and Miyamoto does not disclose the p-semiconductor layer is activated by a heat-treatment.

Matsumoto et al. disclose, in paragraph [0033] and [0034], "In this embodiment, since the nitride semiconductor layers are treated in the atmosphere containing active oxygen to form the oxide film thereon before the activating treatment, the surface of the p-type contact layer 29 is prevented from being deteriorated and also the carrier concentration of the p-type contact layer 29 is increased. After the activation of the p-type impurity, like the above-described fabrication method, the surface of the p-type contact layer 29 is treated with at least one of acid and alkali as needed, to remove the oxide film therefrom (see also step 106 shown in FIG.1).

Therefore, Matsumoto et al. generate the oxide film on the surface of the p-type contact layer and then remove the oxide film with one of acid and alkali. However, the present invention activates the p-semiconductor layer and then directly forms a p-pad electrode without a removal process of an oxide film after the heat-treatment.

Accordingly, it is respectfully submitted claim 5 and each of the claims depending therefrom are allowable.

CONCLUSION

Since the cited prior art neither anticipate nor render obvious the subject invention as presently claims, applicant respectfully submit that claims 5-8 are now in condition for allowance.

Should there be any outstanding matters which need to be resolved in the present application, the Examiner is respectfully requested to contact David A. Bilodeau (Registration No. 42,235) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

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Respectfully submitted,

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